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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/195,533 11/18/98 NIELSEN

H 81208-246275

MM92/0228

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EXAMINER

ROSENBERGER, R

ART UNIT

PAPER NUMBER

2877

DATE MAILED:

02/28/01

**Please find below and/or attached an Office communication concerning this application or proceeding.**

**Commissioner of Patents and Trademarks**

# Office Action Summary

Application No.  
**09/195,533**

Applicant(s)  
**NIELSEN et al**

Examiner  
**Richard Rosenberger**

Group Art Unit  
**2877**



☒ Responsive to communication(s) filed on Jan 2, 2001

☐ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

## Disposition of Claims

☒ Claim(s) 1-17, 24, 26-31, 37-48, 50, and 61-63 is/are pending in the application.

Of the above, claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

☐ Claim(s) \_\_\_\_\_ is/are allowed.

☒ Claim(s) 1-17, 24, 26-31, 37-48, 50, and 61-63 is/are rejected.

☐ Claim(s) \_\_\_\_\_ is/are objected to.

☐ Claims \_\_\_\_\_ are subject to restriction or election requirement.

## Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on \_\_\_\_\_ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some\* ☐ None of the CERTIFIED copies of the priority documents have been  
☐ received.

☐ received in Application No. (Series Code/Serial Number) \_\_\_\_\_.

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\*Certified copies not received: \_\_\_\_\_

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

## Attachment(s)

☒ Notice of References Cited, PTO-892

☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). 9

☐ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

1. The specification is objected to under 5 U.S.C. 112, first paragraph as not setting for the invention in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains to make and use the same.

There is no clear disclosure in the specification as filed relating to the “dark field collection arrangement”. There is no disclosure relating any structure or arrangement which would produce this. The mere mention of a “dark-field collecting arrangement” in claim 4 and “non-normal reflection” on page 9, lines 15-16 does not provide sufficient disclosure to make and use such.

There is also a lack of disclosure relating to the Nomarski DIC detector. There is disclosed a Nomarski prism (106) in both figures 1 and 2, but there is no disclosure relating to how and where the rest of the system may be. In figure 1 the beamsplitter 105 may be intended to break off a part of the beam to direct it to the rest of the system, but the specification does not appear to state that this is the function of that beam splitter; indeed, the specification appear to give not function to beamsplitter 105 at all. Further, there appears to be no such element at all in the embodiment of figure 2 which can be assumed to be a part of a Nomarski system; in figure 2 the beam splitter 105 is used to direct light to the “optical lever” detector 117.

2. Claims 4, 8-10, 42, 43, 45, and 46 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the

specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. See above.

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1, 6, 11, 13, 16, 17, 37, 41, 44, 47, 62 and 63 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rosenfeld et al (US 3,885,875) in view of Hercher (US 5,812,266) and Throngnumchai (US 5,841,127).

Rosenfeld et al shows a light generating device (10) and an optical arrangement (13, 17) for receiving light from the light generating means (10) and imparting light (20) toward a specimen (21). There is a retro beam diversion element (16) which diverts the retro beam from the optical element arrangement and a sensing device (26) for receiving and sensing retro beam position of the diverted beam. The sensing device (26) of Rosenfeld is disclosed as a "position sensor" (column 4, line 56). It would have been obvious to use other known and available position sensors; it is clear that the utility of the system is only in the

detection of the position, and is not in the particular means used to detect the position. Hercher shows a system in which, like that of Rosenfeld et al, there is a position sensitive detector, and , like Rosenfeld et al, a ratio is formed (compare column 6, lines 5-8 of Rosenfeld et al to column 7, lines 10-11 of Hercher). Hercher then states that the detector may be, among other known detectors, "a CD array". (column 7, line 13). Throngnumchai shows that it is known in the art to use a position sensing means comprising a multi-element sensing device (D1, D2, D3) with a plurality of weighting elements (the LA's) wherein the weighting elements alter a characteristic of an electrical out put of the corresponding sensing element based upon a distance of the sensing element from a predetermined point on the multi-element sensing device; see figure 2 in particular.

In Rosenfeld, the diversion element (16) is a beam splitter.

The light generating device of Rosenfeld (10) can be a laser (column 3, line 62).

The light in Rosenfeld (20) is directed substantially normally onto the specimen (21) (column 4, line 47).

As disclosed the scan line of Rosenfeld et al would scan the same line repeatedly. It would have been obvious to move the object laterally to scan other areas of the surface.

5. Claims 2,3, 5, 7, 12, 14, 15, and 38-40 rejected under 35 U.S.C. 103(a) as being unpatentable over Rosenfeld et al (US 3,885,875) in view of Hercher (US 5,812,266) and Throngnumchai (US 5,841,127), and further in view of Vaez-Iravani (US 5,798,829).

Vaez-Iravani shows that it is known to place an optical isolator in a system generally as claimed; the use of such an optical isolator in a system such as that of Rosenfeld et al.

6. Claims 24, 26-31,48, 50 and 61 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vaez-Iravani (US 5,798,829) in view of Rosenfeld et al (US 3,885,875), Hercher (US 5,812,266) and Pryor et al (US 5,164,579)

It would have been obvious to replace the tilt-measuring system of Vaez-Iravani with other known tilt measuring arrangements, such as that of Rosenfeld et al. Vaez-Iravani shows that it is known to place an optical isolator in a system generally as claimed. Rosenfeld et al teaches that the precision of measurement can be adjusted (column 4, lines 59- 63), choosing an appropriate degree of accuracy would be within the skill of those in the art. Hercher teaches that the position sensing detector can be an array (column 7, line 13). It is known that when such an array is used that the spot can be large enough to cover a plurality of sensor elements; see figure 4 of Pryor et al for this.

7. The remarks filed 2 January 2001 have been considered, but have not been found persuasive. While it is true that the specification mentions the use of dark-field detection and mentions the use of a Nomarski DIC sensor, 35 U.S.C. 112 requires more than a mere mention that something can be done, but must set forth in sufficient detail how it is to be done. The sparse mention in the specification is not sufficient disclosure.

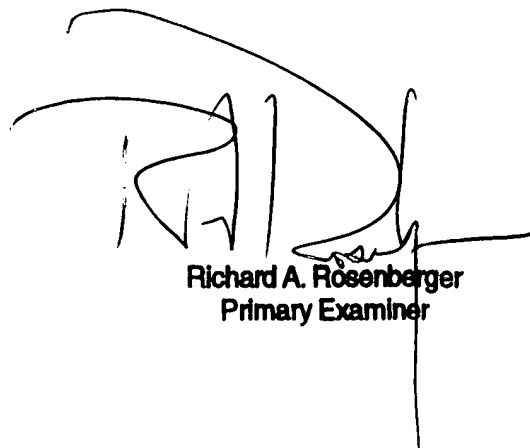
8. The arguments filed 2 January 2001 concerning the art rejections have been considered, but are not persuasive given the citation and use of the Throngnumchai and Pryor et al references.

9. Papers related to this application may be submitted to Group 2800 by facsimile transmission. The faxing of such papers must conform to the notice published in the Official Gazette, 1096 OG 30 (15 November 1989). The fax number is (703) 308-7722.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to R. A. Rosenberger whose telephone number is (703) 308-4804.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-0956.

R. A. Rosenberger  
22 February 2001



Richard A. Rosenberger  
Primary Examiner